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Search Results -

Terms	Documents
theanine	121

Database: US Patents Full-Text Database
US Pre-Grant Publication Full-Text Database
JPO Abstracts Database
EPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

Refine Search: 17 and 12 Clear

Search History

Today's Date: 3/15/2001

DB Name	Query	Hit Count	Set Name
USPT,PGPB,JPAB,EPAB,DWPI	theanine	121	L7
PGPB,JPAB,EPAB,DWPI	l4 and stress$	30	L6
PGPB,JPAB,EPAB,DWPI	l4 and antistress$	0	L5
PGPB,JPAB,EPAB,DWPI	l1 and l2	91	L4
USPT,PGPB,JPAB,EPAB,DWPI	l1 and l2	371	L3
USPT,PGPB,JPAB,EPAB,DWPI	antidepress$ or antistress$	10724	L2
USPT,PGPB,JPAB,EPAB,DWPI	PMS or premenstrual syndrome	29590	L1

(FILE 'HOME' ENTERED AT 17:30:05 ON 15 MAR 2001)

FILE 'MEDLINE, CAPLUS, BIOSIS' ENTERED AT 17:30:23 ON 15 MAR 2001

L1	396	S	THEANINE
L2	71477	S	ANTIDEPRESS?
		E	ANTIDEPRESS?/CT
L3	808	S	ANTISTRESS?
		E	ANTISTRESS?/CT
L4	0	S	L1 AND L2
L5	2	S	L1 AND L3
L6	3595	S	PREMENSTRUAL SYNDROME
		E	PREMENSTRUAL SYNDROME/CT
L7	0	S	L6 AND L3
L8	244	S	L6 AND STRESS?
L9	49	S	L8 AND STRESS?/TI
L10	42		DUPLICATE REMOVE L9 (7 DUPLICATES REMOVED)
L11	34126	S	TEA
L12	0	S	L11 AND ZINIC
L13	728	S	L11 AND ZINC
L14	259	S	L13 AND TEA/TI
L15	3	S	L14 AND THEANINE

```
=> file caplus medline caold
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                          ENTRY     SESSION
FULL ESTIMATED COST                                       14.21       29.42

FILE 'CAPLUS' ENTERED AT 11:40:14 ON 29 JUN 2002
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=> s l1
L5          336 L1

=> s premenstr?
L6         4142 PREMENSTR?

=> s l5 and l6
L7            0 L5 AND L6

=> s l5 and (sodium or potassium or calcium or zinc or iron or copper)
L8           42 L5 AND (SODIUM OR POTASSIUM OR CALCIUM OR ZINC OR IRON OR
COPPER
                )

=> duplicate remove l8
DUPLICATE IS NOT AVAILABLE IN 'CAOLD'.
ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE
DUPLICATE PREFERENCE IS 'CAPLUS, MEDLINE'
KEEP DUPLICATES FROM MORE THAN ONE FILE?  Y/(N):n
PROCESSING COMPLETED FOR L8
L9            40 DUPLICATE REMOVE L8 (2 DUPLICATES REMOVED)

=> s l9 and py<=1998
L10           29 L9 AND PY<=1998

=> d ibib abs 1-29
```

Trying 3106016892...Open

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NEWS 3	Oct 27	New Extraction Code PAX now available in Derwent Files
NEWS 4	Oct 27	SET ABBREVIATIONS and SET PLURALS extended in Derwent World Patents Index files
NEWS 5	Oct 27	Patent Assignee Code Dictionary now available in Derwent Patent Files
NEWS 6	Oct 27	Plasdoc Key Serials Dictionary and Echoing added to Derwent Subscriber Files WPIDS and WPIX
NEWS 7	Nov 29	Derwent announces further increase in updates for DWPI

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FILE 'HOME' ENTERED AT 12:21:38 ON 30 NOV 2000

=> file registry

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.15	0.15

FILE 'REGISTRY' ENTERED AT 12:21:55 ON 30 NOV 2000
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STRUCTURE FILE UPDATES: 28 NOV 2000 HIGHEST RN 304849-62-5
DICTIONARY FILE UPDATES: 28 NOV 2000 HIGHEST RN 304849-62-5

TSCA INFORMATION NOW CURRENT THROUGH July 8, 2000

Please note that search-term pricing does apply when

conducting SmartSELECT searches.

Structure search limits have been increased. See HELP SLIMIT for details.

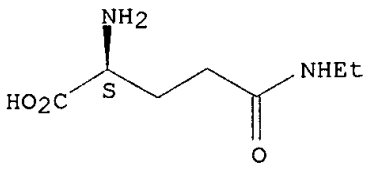
=> s theanine

L1 6 THEANINE

=> d 1-6

L1 ANSWER 1 OF 6 REGISTRY COPYRIGHT 2000 ACS
RN 175696-81-8 REGISTRY
CN L-Glutamine, N-ethyl-, monohydrochloride (9CI) (CA INDEX NAME)
OTHER NAMES:
CN **L-Theanine monohydrochloride**
CN N-Ethyl-L-glutamine hydrochloride
CN N-Ethyl-L-glutamine monohydrochloride
CN **Theanine hydrochloride**
FS STEREOSEARCH
MF C7 H14 N2 O3 . Cl H
SR CA
LC STN Files: CA, CAPLUS, CASREACT
CRN (3081-61-6)

Absolute stereochemistry.



● HCl

2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

L1 ANSWER 2 OF 6 REGISTRY COPYRIGHT 2000 ACS
RN 99533-51-4 REGISTRY
CN **Hydrolase, theanine (9CI)** (CA INDEX NAME)
OTHER NAMES:
CN **Theanine hydrolase**
MF Unspecified
CI MAN
SR CA
LC STN Files: BIOBUSINESS, BIOSIS, CA, CAPLUS

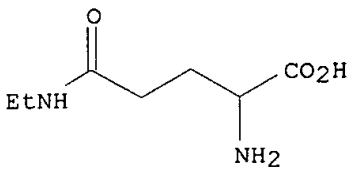
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

L1 ANSWER 3 OF 6 REGISTRY COPYRIGHT 2000 ACS
RN 62213-31-4 REGISTRY
CN Synthetase, N5-ethylglutamine (9CI) (CA INDEX NAME)
OTHER NAMES:

CN E.C. 6.3.1.6
CN **Theanine synthetase**
MF Unspecified
CI MAN
LC STN Files: BIOSIS

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

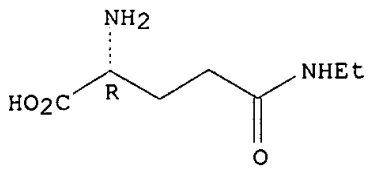
L1 ANSWER 4 OF 6 REGISTRY COPYRIGHT 2000 ACS
RN 34271-54-0 REGISTRY
CN Glutamine, N-ethyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN DL-Glutamine, N-ethyl-
CN Glutamine, N-ethyl-, DL- (8CI)
OTHER NAMES:
CN **DL-Theanine**
DR 17010-37-6
MF C7 H14 N2 O3
CI COM
LC STN Files: BEILSTEIN*, CA, CAPLUS, TOXLIT
(*File contains numerically searchable property data)



4 REFERENCES IN FILE CA (1967 TO DATE)
4 REFERENCES IN FILE CAPLUS (1967 TO DATE)

L1 ANSWER 5 OF 6 REGISTRY COPYRIGHT 2000 ACS
RN 5822-62-8 REGISTRY
CN D-Glutamine, N-ethyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Glutamine, N-ethyl-, D- (8CI)
OTHER NAMES:
CN **D-Theanine**
FS STEREOSEARCH
MF C7 H14 N2 O3
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, TOXLIT
(*File contains numerically searchable property data)

Absolute stereochemistry.

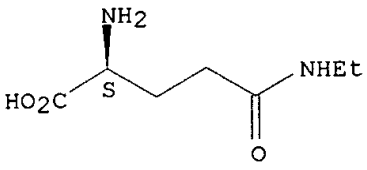


2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)
3 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L1 ANSWER 6 OF 6 REGISTRY COPYRIGHT 2000 ACS

RN 3081-61-6 REGISTRY
CN L-Glutamine, N-ethyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Glutamine, N-ethyl-, L- (6CI, 7CI, 8CI)
OTHER NAMES:
CN **L-Theanine**
CN Theanin
CN **Theanine**
AR 17010-37-6
FS STEREOSEARCH
MF C7 H14 N2 O3
CI COM
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CABA,
CANCERLIT, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CSCHEM, MEDLINE,
NAPRALERT, PROMT, TOXLINE, TOXLIT, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.



246 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
247 REFERENCES IN FILE CAPLUS (1967 TO DATE)
24 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> log y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	13.02	13.17

STN INTERNATIONAL LOGOFF AT 12:23:30 ON 30 NOV 2000

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FILE 'HOME' ENTERED AT 14:20:19 ON 30 NOV 2000

=> file medline caplus biosis

COST IN U.S. DOLLARS                                  SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                       0.15       0.15

FILE 'MEDLINE' ENTERED AT 14:20:43 ON 30 NOV 2000

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FILE 'BIOSIS' ENTERED AT 14:20:43 ON 30 NOV 2000
COPYRIGHT (C) 2000 BIOSIS(R)

=> s homeostasis

L1      906999 HOMEOSTASIS

=> s theanine

L2         385 THEANINE

=> s l1 and l2

L3           6 L1 AND L2

=> duplicate remove l3

PROCESSING COMPLETED FOR L3
L4           6 DUPLICATE REMOVE L3 (0 DUPLICATES REMOVED)
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=> d ibib abs 1-6

L4 ANSWER 1 OF 6 BIOSIS COPYRIGHT 2000 BIOSIS
ACCESSION NUMBER: 1999:378548 BIOSIS
DOCUMENT NUMBER: PREV199900378548
TITLE: Human gammadelta T cells recognize alkylamines derived from microbes, edible plants, and tea: Implications for innate immunity.
AUTHOR(S): Bukowski, Jack F. (1); Morita, Craig T.; Brenner, Michael B.
CORPORATE SOURCE: (1) Lymphocyte Biology Section, Division of Rheumatology, Immunology, and Allergy, Department of Medicine, Brigham and Women's Hospital and Harvard Medical School, Boston, MA, 02115 USA
SOURCE: Immunity, (July, 1999) Vol. 11, No. 1, pp. 57-65. ISSN: 1074-7613.
DOCUMENT TYPE: Article
LANGUAGE: English
SUMMARY LANGUAGE: English
AB Approximately 4% of peripheral blood T cells in humans express a T cell receptor with markedly restricted germline gene segment usage (Vgamma2Vdelta2). Remarkably, these T cells expand 2- to 10-fold (8%-60% of all circulating T cells) during many microbial infections. We show here that these T cells recognize a family of naturally occurring primary alkylamines in a TCR-dependent manner. These antigenic alkylamines are secreted to millimolar concentrations in bacterial supernatants and are found in certain edible plants. Given the large numbers of memory Vgamma2Vdelta2 T cells in adult humans, recognition of alkylamine antigens offers the immune system a response of the magnitude of major superantigens for alphabeta T cells and may bridge the gap between innate and adaptive immunity.

L4 ANSWER 2 OF 6 BIOSIS COPYRIGHT 2000 BIOSIS
ACCESSION NUMBER: 1997:528662 BIOSIS
DOCUMENT NUMBER: PREV199799827865
TITLE: The influence of **theanine** administration on stimulatory action of caffeine by EEG in the rats.
AUTHOR(S): Kakuda, T. (1); Sakane, I. (1); Takihara, T. (1); Okamura, N.; Okai, O.
CORPORATE SOURCE: (1) Central Res. Inst., Itoen Ltd., Shizuoka Japan
SOURCE: Society for Neuroscience Abstracts, (1997) Vol. 23, No. 1-2, pp. 1351.
Meeting Info.: 27th Annual Meeting of the Society for Neuroscience New Orleans, Louisiana, USA October 25-30, 1997
ISSN: 0190-5295.
DOCUMENT TYPE: Conference; Abstract; Conference
LANGUAGE: English

L4 ANSWER 3 OF 6 BIOSIS COPYRIGHT 2000 BIOSIS
ACCESSION NUMBER: 1997:179419 BIOSIS
DOCUMENT NUMBER: PREV199799471132
TITLE: Inhibitory effect of green tea on injury to a cultured renal epithelial cell line, LLC-PK-1.
AUTHOR(S): Yokozawa, Takako (1); Dong, Erbo (1); Chung, Hae Young; Oura, Hikokichi; Nakagawa, Hitomi

CORPORATE SOURCE: (1) Res. Inst. Wakan-Yaku, Toyama Med. Pharmaceutical University, Sugitani, Toyama 930-01 Japan
SOURCE: Bioscience Biotechnology and Biochemistry, (1997) Vol. 61, No. 1, pp. 204-206.
ISSN: 0916-8451.
DOCUMENT TYPE: Article
LANGUAGE: English
AB When cells from a cultured renal epithelial cell line, LLC-PK-1, were cultured under hypoxic conditions (oxygen concentration of 2% or less) before reoxygenation was applied (95% air, 5% CO-2), the leakage of lactate dehydrogenase (LDH) into the medium increased. This phenomenon was inhibited in the presence of dimethyl sulfoxide, a hydroxyl radical scavenger, suggesting the involvement of free radicals. Such oxidative stress was significantly inhibited by a green tea extract, and more potently by a tannin mixture. On the other hand, under ordinary culture conditions (95% air, 5% CO-2), there was cell injury, although the LDH leakage was less than that under hypoxia/reoxygenation, and such injury was inhibited by the green tea extract and the tannin mixture.

L4 ANSWER 4 OF 6 BIOSIS COPYRIGHT 2000 BIOSIS
ACCESSION NUMBER: 1995:467122 BIOSIS
DOCUMENT NUMBER: PREV199598481422
TITLE: **Theanine**, a glutamate analog, stimulates NMDA-receptors but suppresses excitatory effect of caffeine in cortical neurons.
AUTHOR(S): Nozawa, A. (1); Umezawa, K. (1); Kobayashi, K. (1); Muramoto, K. (1); Kawahara, M. (1); Mizutani, A. (1); Kakuda, T.; Kuroda, Y. (1)
CORPORATE SOURCE: (1) Dep. Mol. Cell. Neurobiol., Tokyo Metropolitan Inst. Neurosci., Tokyo 183 Japan
SOURCE: Society for Neuroscience Abstracts, (1995) Vol. 21, No. 1-3, pp. 835.
Meeting Info.: 25th Annual Meeting of the Society for Neuroscience San Diego, California, USA November 11-16, 1995
ISSN: 0190-5295.
DOCUMENT TYPE: Conference
LANGUAGE: English

L4 ANSWER 5 OF 6 BIOSIS COPYRIGHT 2000 BIOSIS
ACCESSION NUMBER: 1995:341354 BIOSIS
DOCUMENT NUMBER: PREV199598355654
TITLE: Reduction Effect of **Theanine** on Blood Pressure and Brain 5-Hydroxyindoles in Spontaneously Hypertensive Rats.
AUTHOR(S): Yokogoshi, Hidehiko (1); Kato, Yukiko; Sagesaka, Yuko M.; Takihara-Matsuura, Takanobu; Kakuda, Takami; Takeuchi, Naokazu
CORPORATE SOURCE: (1) School Food Nutr. Sci., Univ. Shizuoka, 52-1 Yada, Shizuoka 422 Japan
SOURCE: Bioscience Biotechnology and Biochemistry, (1995) Vol. 59, No. 4, pp. 615-618.
ISSN: 0916-8451.
DOCUMENT TYPE: Article
LANGUAGE: English
AB The effect of **theanine**, one of the components of green tea, on the blood pressure and brain 5-hydroxyindoles in spontaneously hypertensive rats (SHR) and Wistar Kyoto rats (WKY) was investigated by intraperitoneally administering **theanine**. The effect of

glutamine, which is structurally similar to **theanine**, was also examined. When SHR were injected with various amounts of **theanine** (0, 500, 1000, 1500, and 2000mg/kg), the change was dose-dependent, and a significant decrease in blood pressure was observed with the high doses (1500 and 2000 mg/kg). A dose of 2000 mg/kg of **theanine** did not alter the blood pressure of WKY, while the same dose to SHR decreased it significantly. On the other hand, glutamine administration to SHR did not change either the blood pressure or the heart rate. The brain 5-hydroxyindole level was significantly decreased by **theanine** administration to both WKY and SHR, the decrease being dose-dependent.

L4 ANSWER 6 OF 6 BIOSIS COPYRIGHT 2000 BIOSIS
ACCESSION NUMBER: 1994:318619 BIOSIS
DOCUMENT NUMBER: PREV199497331619
TITLE: Electrophysiologically potent non-competitive glutamate antagonists at crayfish neuromuscular junctions are also potent inhibitors of (3H)MK801 binding to synaptic membranes from rat central nervous system.
AUTHOR(S): Maruyama, M. (1); Takeda, K.
CORPORATE SOURCE: (1) Lab. Neuropharmacol., Mitsubishi Kasei Inst. Life Sci.,
11 Minamiooya, Machida-shi, Tokyo 194 Japan
SOURCE: Comparative Biochemistry and Physiology C Pharmacology Toxicology and Endocrinology, (1994) Vol. 107, No. 1, pp. 105-110.
ISSN: 0742-8413.
DOCUMENT TYPE: Article
LANGUAGE: English
AB This paper describes effects of non-competitive glutamate antagonists, also known as "glutamate open channel blockers", at crayfish neuromuscular
junctions, on the binding of (3H)glutamate, (3H)CPP, (3H)AMPA, (3H)kainate
and (3H)MK-801 to Triton-treated rat hippocampal synaptic membranes, and (3H)MK-801 to Triton-treated synaptic membranes from young rat spinal cord. The compounds tested were oxymatrine, **theanine**, diltiazem, chlorisondamine, tuberostemonine, trimethaphan, N-2-dansyl-L-arginine-4-t-
butylpiperidine amide (TI 233), (1RS,2SR)-5-methyl-1-phenyl-2-(3-piperidinopropyl amino) hexane-1-ol (MLV-5860) and (4S,5R)-4-(2-methylpropyl)-3-(3-(perhydroazepin-1-yl)propyl)-5-phenyl-1,3-oxazoline-2-one (MLV-6976). Among compounds tested, MLV-5860, MLV-6976 and TI 233 potently inhibited the binding of (3H)MK-801 to Triton-treated rat hippocampal synaptic membranes, but not that of other 3H-labelled ligands.
The inhibitory potency of MLV-6976 and MLV-5860 on the binding of (3H)MK-801 was similar to that of MK-801. MLV-6976 could also inhibit the binding of (3H)MK-801 to Triton-treated synaptic membranes from young rat spinal cords, and the inhibitory potency was similar to MK-801. These results suggest that potent glutamate antagonists, acting as open channel blockers at crayfish neuromuscular junction, may have similar pharmacological properties to MK-801 at the mammalian central nervous system, but the reverse may not always be true.

=> s premenstrual or obesity or anxiogenic or menopausal or autonomic

L5 297516 PREMENSTRUAL OR OBESITY OR ANXIOGENIC OR MENOPAUSAL OR AUTONOMIC

=> d hist

(FILE 'HOME' ENTERED AT 14:20:19 ON 30 NOV 2000)

FILE 'MEDLINE, CAPLUS, BIOSIS' ENTERED AT 14:20:43 ON 30 NOV 2000
L1 906999 S HOMEOSTASIS
L2 385 S THEANINE
L3 6 S L1 AND L2
L4 6 DUPLICATE REMOVE L3 (0 DUPLICATES REMOVED)
L5 297516 S PREMENSTRUAL OR OBESITY OR ANXIOGENIC OR MENOPAUSAL OR AUTONO

=> s l5 and l1

L6 16810 L5 AND L1

=> s l5 and l2

L7 2 L5 AND L2

=> d ibib abs 1-2

L7 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1999:549146 CAPLUS
DOCUMENT NUMBER: 131:149342
TITLE: Composition comprising **theanine**
INVENTOR(S): Ueda, Tomoko; Nagato, Yukiko; Tanaka, Yukiko; Okubo, Tsutomu; Kobayashi, Kanari; Aoi, Nobuyuki; Shu, Seiji; Juneja, Lekh Raj
PATENT ASSIGNEE(S): Taiyo Kagaku Co., Ltd., Japan
SOURCE: PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9942096	A1	19990826	WO 1999-JP784	19990223
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
JP 2000053568	A2	20000222	JP 1998-234968	19980806
JP 2000143508	A2	20000523	JP 1998-330207	19981105
AU 9925488	A1	19990906	AU 1999-25488	19990223
JP 2000247878	A2	20000912	JP 1999-235538	19990823
PRIORITY APPLN. INFO.:			JP 1998-57470	19980223
			JP 1998-142119	19980508
			JP 1998-234968	19980806
			JP 1998-330207	19981105
			WO 1999-JP784	19990223

AB The invention relates to a compn. comprising **theanine** which is used for depression and amelioration of the symptom caused by degrdn. of

homeostatic function, and a mineral compn. comprising **theanine** and a mineral. A compn. which can be used for depressing and ameliorating the above-mentioned symptom and a mineral compn. which is reduced in a taste peculiar to a metal and can be administrated with ease.
REFERENCE COUNT: 2
REFERENCE(S): (1) Suntory Ltd; JP 06100442 A 1994
(2) Suntory Ltd; JP 640901 A 1994

L7 ANSWER 2 OF 2 BIOSIS COPYRIGHT 2000 BIOSIS
ACCESSION NUMBER: 1999:68914 BIOSIS
DOCUMENT NUMBER: PREV199900068914
TITLE: **Theanine**, a major flavorous amino acid in green tea leaves, inhibits glutamate-induced neurotoxicity on cultured rat cerebral cortical neurons.
AUTHOR(S): Nozawa, A. (1); Umezawa, K.; Kobayashi, K.; Kawahara, M.; Muramoto, K.; Kakuda, T. (1); Kuroda, Y.
CORPORATE SOURCE: (1) Dep. Molecular and Cellular Neurobiol., Tokyo Metropolitan Inst. Neurosci., Tokyo 183-8526 Japan
SOURCE: Society for Neuroscience Abstracts, (1998) Vol. 24, No. 1-2, pp. 978.
Meeting Info.: 28th Annual Meeting of the Society for Neuroscience, Part 1 Los Angeles, California, USA November 7-12, 1998 Society for Neuroscience
. ISSN: 0190-5295.
DOCUMENT TYPE: Conference
LANGUAGE: English

=> log y

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NEWS	5	Oct 27	Patent Assignee Code Dictionary now available in Derwent Patent Files

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 NEWS  6  Oct 27  Plasdoc Key Serials Dictionary and Echoing added to
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L1            7 17010-37-6 OR 34271-54-0 OR 5822-62-8 OR 175696-81-8

=> s theanine

L2          291 THEANINE

=> s l2 or l1

L3          292 L2 OR L1

=> s l3 and review

L4           17 L3 AND REVIEW

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PROCESSING COMPLETED FOR L4
L5           17 DUPLICATE REMOVE L4 (0 DUPLICATES REMOVED)

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L5 ANSWER 1 OF 17 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 2000:306134 CAPLUS
DOCUMENT NUMBER: 132:333493
TITLE: A unique amino acid of green tea, L-**theanine**, and its relaxation effect in humans
AUTHOR(S): Chu, Djong Chi; Okubo, Tsutomu; Ueda, Tomoko; Juneja, Lekh Raj
CORPORATE SOURCE: Nutr. Foods Div., Taiyo Kagaku Co., Ltd., Yokkaichi, 510-0844, Japan
SOURCE: Fragrance J. (2000), 28(4), 74-80
CODEN: FUJAD7; ISSN: 0288-9803
PUBLISHER: Fureguransu Janaru Sha
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese
AB A **review** with 22 refs. about L-**theanine**, unique amino acid found almost solely in tea plants. Physiol. function and relaxation effects of L-**theanine** and its application to food are discussed.

L5 ANSWER 2 OF 17 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1999:806421 CAPLUS
DOCUMENT NUMBER: 132:165251
TITLE: L-**theanine** - a unique amino acid of green tea and its relaxation effect in humans
AUTHOR(S): Juneja, L. R.; Chu, D.-C.; Okubo, T.; Nagato, Y.; Yokogoshi, H.
CORPORATE SOURCE: Nutritional Foods Division, Taiyo Kagaku Co., Ltd., Yokkaichi, Mie, Japan
SOURCE: Trends Food Sci. Technol. (1999), 10(6-7), 199-204
CODEN: TFTEEH; ISSN: 0924-2244
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A **review** with 21 refs. Since ancient times, it has been said that drinking green tea brings relaxation. The substance that is responsible for a sense of relaxation is **theanine**. **Theanine** is a unique amino acid found almost solely in tea plants and the main component responsible for the exotic taste of green tea. It was found that L-**theanine** administered i.p. to rats reached the brain within 30 min without any metabolic change. **Theanine** also acts as a neurotransmitter in the brain and decreases blood pressure significantly in hypertensive rats. In general, animals always generate very weak elec. pulses on the surface of the brain, called brain waves. Brain waves are classified into four types, namely .alpha., .beta., .delta. and .theta.-waves, based on mental conditions. Generation of .alpha.-waves is considered to be an index of relaxation. In human volunteers, .alpha.-waves were generated on the occipital and parietal regions of the brain surface within 40 min after the oral administration of **theanine** (50-200 mg), signifying relaxation without causing drowsiness. With the successful industrial prodn. of L-**theanine**, we are now able to supply Suntheanine (trade name of L-**theanine**) which offers a tremendous opportunity for designing foods and medical foods targeting relaxation and the redn. of stress. Taiyo Kagaku Co., Ltd, Japan won the 1998 'Food Ingredient Research Award' for development of Suntheanine at Food Ingredients in Europe (Frankfurt). The judges felt it was a particularly well-documented and fascinating piece of research.
REFERENCE COUNT: 21
REFERENCE(S): (2) Kawagishi, H; Biosci Biotechnol Biochem 1992, V56,

(4) Kimura, R; Chem Pharm Bull 1986, V34, P3053 CAPLUS
(5) Kitaoka, S; Biosci Biotechnol Biochem 1996, V60, P1768 CAPLUS
(6) Konishi, S; J Soil Manure 1969, V40, P479 CAPLUS
(9) Mukai, T; Tea Res J 1992, V76, P45 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 17 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1999:148538 CAPLUS
DOCUMENT NUMBER: 131:4537
TITLE: Functions and food applications of L-**theanine**
AUTHOR(S): Nagato, Yukiko
CORPORATE SOURCE: NF Division, Taiyo Kagaku Co., Ltd., Japan
SOURCE: Shokuhin to Kagaku (1999), 41(2), 86-89
CODEN: SHTKAY; ISSN: 0037-4105
PUBLISHER: Shokuhin to Kagakusha
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese
AB A **review** with 10 refs. on L-**theanine** which is found in green tea, covering the physiol. functions of L-**theanine**, e.g. dopamine secretion promotion, antihypertensive action, and relaxation effect, and the application of L-**theanine** in foods.

L5 ANSWER 4 OF 17 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1999:372401 CAPLUS
DOCUMENT NUMBER: 131:169668
TITLE: Metabolism of **theanine** in brain and the effects on increase of memory and learning activity
AUTHOR(S): Yokogoshi, Hidchiko
CORPORATE SOURCE: Japan
SOURCE: Food Style 21 (1999), 3(6), 41-44
CODEN: FSTYFF
PUBLISHER: Shokuhin Kagaku Shinbunsha
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese
AB A **review** with 9 refs. on the effects of **theanine** (.gamma.-glutamylethylamide) in green tea on brain neurotransmitter, dopamine release, blood pressure, relaxation, and memory and learning activities.

L5 ANSWER 5 OF 17 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1999:26097 CAPLUS
DOCUMENT NUMBER: 130:100328
TITLE: Application and development of skin moisturizers
AUTHOR(S): Sasaki, Ichiro; Uehara, Shizuka
CORPORATE SOURCE: Basic Res. Lab., Kose Corp., Tokyo, 174-0051, Japan
SOURCE: Fragrance J. (1998), 26(12), 39-44
CODEN: FUJAD7; ISSN: 0288-9803
PUBLISHER: Fureguransu Janaru Sha
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese
AB A **review** with 22 refs., on optical isomerism-dependent multifunctional and physiol. properties of amino acids, and properties of L-amino acids, such as L-serine, L-PCA (pyrrolidonecarboxylic acid), and L-**theanine**, as ideal skin moisturizer.

L5 ANSWER 6 OF 17 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1997:517803 CAPLUS
DOCUMENT NUMBER: 127:189957
TITLE: Brain activity and tea. Involvement of

theanine in metabolism of neurotransmitters in brain
AUTHOR(S): Yokogoshi, Hidehiko
CORPORATE SOURCE: Shokuhin Eiyo Kagakubu, Shizuoka-kenritsu Daigaku, Shizuoka, 422, Japan
SOURCE: Kagaku to Seibutsu (1997), 35(8), 541-542
CODEN: KASEAA; ISSN: 0453-073X
PUBLISHER: Gakkai Shuppan Senta
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese
AB A **review** with 5 refs., on physiol. function of **theanine** in the brain, focusing on acceleration effect of **theanine** on dopamine release and its possible mechanism.

L5 ANSWER 7 OF 17 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1997:622503 CAPLUS
DOCUMENT NUMBER: 127:275341
TITLE: **Theanine** - its synthesis, isolation, and physiological activity
AUTHOR(S): Chu, D. - C.; Kobayashi, K.; Juneja, L. R.; Yamamoto, T.
CORPORATE SOURCE: International Division, Taiyo Kagaku Co., Ltd., Japan
SOURCE: Chem. Appl. Green Tea (1997), 129-135. Editor(s): Yamamoto, Takehiko. CRC: Boca Raton, Fla.
CODEN: 65BJA7
DOCUMENT TYPE: Conference; General Review
LANGUAGE: English
AB A **review** with 22 refs. on the presence of **theanine** in the tea plant, its enzymic synthesis and some of its physiol. activities.

L5 ANSWER 8 OF 17 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1995:560039 CAPLUS
DOCUMENT NUMBER: 122:313459
TITLE: Nutrition, neurotransmitter and brain function
AUTHOR(S): Yokogoshi, Hidehiko
CORPORATE SOURCE: Sch. Food Nutr. Sci., Univ. Shizuoka, Shizuoka, 422, Japan
SOURCE: Nippon Nogei Kagaku Kaishi (1995), 69(5), 571-3
CODEN: NNKKAA; ISSN: 0002-1407
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese
AB A **review** with 11 refs. on the effects of nutrients, e.g., carbohydrates, proteins, amino acids, caffeine, **theanine**, fats, and fatty acids on neurotransmitters in brain.

L5 ANSWER 9 OF 17 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1996:62842 CAPLUS
DOCUMENT NUMBER: 124:155765
TITLE: **Theanine** and its physiological functions
AUTHOR(S): Suzuki, Masayuki; Nanjo, Fumio; Hara, Yukihiko
CORPORATE SOURCE: Mitsui Norin K.K., Japan
SOURCE: Shokuhin Kogyo (1995), 38(24), 77-81
CODEN: SKGYAW; ISSN: 0559-8990
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese
AB A **review** and discussion with 24 refs. on extn. of **theanine** from tea leaves, its physiol. functions, and prospects of its therapeutic use.

L5 ANSWER 10 OF 17 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1995:313802 CAPLUS

DOCUMENT NUMBER: 122:131236
TITLE: Production of **theanine** by cell suspension culture of tea
AUTHOR(S): Takihara, Takanobu; Kakuda, Takami; Kitada, Takuya; Takeuchi, Naokazu; Sato, Hitonobu
CORPORATE SOURCE: Itoen K. K., Japan
SOURCE: Shokuhin Kogyo (1994), 37(24), 18-24
CODEN: SKGYAW; ISSN: 0559-8990
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese
AB A **review** with 14 refs. on the prodn. of **theanine** from Camellia sinensis.

=> d ibib abs 11-17

L5 ANSWER 11 OF 17 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1987:493436 CAPLUS
DOCUMENT NUMBER: 107:93436
TITLE: Useful components of tea in leaves of the genus Camellia
AUTHOR(S): Nagata, Tadahiro
CORPORATE SOURCE: Natl. Res. Inst. Teach., Shizuoka, 428, Japan
SOURCE: Chagyo Shikenjo Kenkyu Hokoku (1986), (21), 59-120
CODEN: CSKHBI; ISSN: 0528-7820
DOCUMENT TYPE: Journal; General, Review
LANGUAGE: Japanese
AB A **review** with 103 refs. discussing the xanthines (e.g., caffeine, theobromine), galloyl catechins, and amino acids (e.g., **theanine**) contents of leaves of Camellia species. The isolation and structure elucidation of antifungal saponins are also described.

L5 ANSWER 12 OF 17 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1987:116461 CAPLUS
DOCUMENT NUMBER: 106:116461
TITLE: Explanation of history of experimentation on the tea root
AUTHOR(S): Aono, Hideya; Sakai, Shinsuke; Yamashita, Masataka; Ishigaki, Kozo
CORPORATE SOURCE: Natl. Res. Inst. Tea, Shizuoka, 428, Japan
SOURCE: Chagyo Gijutsu Kenkyu (1986), (69), 1-16
CODEN: CHGKAV; ISSN: 0366-6123
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese
AB A **review** with 143 refs. discussing the growth process and physiol. of the tea plant root. Biogenesis of amino acids (e.g. **theanine**) is also discussed.

L5 ANSWER 13 OF 17 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1983:451887 CAPLUS
DOCUMENT NUMBER: 99:51887
TITLE: Study of some nitrogenous substances in tea (Camellia sinensis)
AUTHOR(S): Neumann, Klaus; Montag, Alfred
CORPORATE SOURCE: Univ. Hamburg, Hamburg, 2000/13, Fed. Rep. Ger.
SOURCE: Dtsch. Lebensm.-Rundsch. (1983), 79(5), 160-4
CODEN: DLRUAJ; ISSN: 0012-0413
DOCUMENT TYPE: Journal; General Review
LANGUAGE: German
AB A **review** with 9 refs. on the contents of **theanine**

[3081-61-6], free and total amino acids, N, and amines in various tea products and their role in tea ext. quality.

L5 ANSWER 14 OF 17 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1982:17219 CAPLUS
DOCUMENT NUMBER: 96:17219
TITLE: Nitrogen metabolism pertaining to biosynthesis of **theanine** in tea plants
AUTHOR(S): Takeo, Tadakazu
CORPORATE SOURCE: Tea Technol. Div., Natl. Res. Inst. Tea, Kanaya, 428, Japan
SOURCE: JARQ (1981), 15(2), 110-16
CODEN: JARJA9; ISSN: 0368-1297
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A **review** and discussion with 10 refs. of **theanine** formation in relation to the biosynthetic pathway of ethylamine, utilization of ammonia-N in tea roots, and the amino acid content of shoots.

L5 ANSWER 15 OF 17 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1974:402435 CAPLUS
DOCUMENT NUMBER: 81:2435
TITLE: Biochemical aspects of tea production and processing
AUTHOR(S): Takeo, Tadakazu
CORPORATE SOURCE: Tea Exp. Stn., Kanaya, Japan
SOURCE: Kagaku To Seibutsu (1973), 11(9), 579-84
CODEN: KASEAA
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese
AB The biosynthesis of catechins, caffeine, and **theanine** in Assamese and Chinese tea leaves and the oxidn. of ascorbic acid and catechins in the leaves are reviewed, with 20 refs., in relation totheir cultivation and subsequent processing.

L5 ANSWER 16 OF 17 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1970:484585 CAPLUS
DOCUMENT NUMBER: 73:84585
TITLE: Physiological chemistry on two amides contained in tea tree
AUTHOR(S): Konishi, Shigeki
CORPORATE SOURCE: Univ. Kyoto, Kyoto, Japan
SOURCE: Chagyo Kenkyu Hokoku, Shiryo (1970), (2), 22-32
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese
AB A **review** with 43 refs. Included are biosynthesis of **theanine** in the root, metabolism of **theanine** into phloroglucinol at the leaves and the buds under illumination, presence of L-glutamic acid .gamma.-methylamine (GMA) in tea leaves, and breakdown of GMA and incorporation of the N-methyl group into Me groups of caffeine under illumination.

L5 ANSWER 17 OF 17 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1970:452983 CAPLUS
DOCUMENT NUMBER: 73:52983
TITLE: Biochemistry of **theanine**
AUTHOR(S): Sasaoka, Kei; Kito, Makoto
CORPORATE SOURCE: Univ. Kyoto, Kyoto, Japan
SOURCE: Chagyo Kenkyu Hokoku, Shiryo (1970), (2), 12-21
DOCUMENT TYPE: Journal; General Review

LANGUAGE: Japanese

AB A **review**. Biosynthesis of **theanine** from EtNH2 and glutamic acid by tea seedling homogenate in the presence of ATP and Mg++, isolation from tea seedlings, and the properties of the crude enzyme synthesizing **theanine**, which may be called L-glutamate-ethylamine lyase, properties of the enzyme from peas and pigeon liver, and the breakdown of **theanine** and incorporation of the N-ethyl moiety into the phloroglucinol fraction of catechins after exposure to light are discussed. 13 refs.

=> d hist

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FILE 'MEDLINE, CAPLUS' ENTERED AT 14:49:14 ON 30 NOV 2000

L1 7 S 17010-37-6 OR 34271-54-0 OR 5822-62-8 OR 175696-81-8
L2 291 S THEANINE
L3 292 S L2 OR L1
L4 17 S L3 AND REVIEW
L5 17 DUPLICATE REMOVE L4 (0 DUPLICATES REMOVED)

=> s l3 and imbalance

L6 1 L3 AND IMBALANCE

=> d ibib abs

L6 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1999:549146 CAPLUS
DOCUMENT NUMBER: 131:149342
TITLE: Composition comprising **theanine**
INVENTOR(S): Ueda, Tomoko; Nagato, Yukiko; Tanaka, Yukiko; Okubo, Tsutomu; Kobayashi, Kanari; Aoi, Nobuyuki; Shu, Seiji; Juneja, Lekh Raj
PATENT ASSIGNEE(S): Taiyo Kagaku Co., Ltd., Japan
SOURCE: PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9942096	A1	19990826	WO 1999-JP784	19990223
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
JP 2000053568	A2	20000222	JP 1998-234968	19980806
JP 2000143508	A2	20000523	JP 1998-330207	19981105
AU 9925488	A1	19990906	AU 1999-25488	19990223

JP 2000247878 A2 20000912 JP 1999-235538 19990823
PRIORITY APPLN. INFO.: JP 1998-57470 19980223
JP 1998-142119 19980508
JP 1998-234968 19980806
JP 1998-330207 19981105
WO 1999-JP784 19990223

AB The invention relates to a compn. comprising **theanine** which is used for depression and amelioration of the symptom caused by degrdn. of homeostatic function, and a mineral compn. comprising **theanine** and a mineral. A compn. which can be used for depressing and ameliorating the above-mentioned symptom and a mineral compn. which is reduced in a taste peculiar to a metal and can be administrated with ease.

REFERENCE COUNT: 2
REFERENCE(S): (1) Suntory Ltd; JP 06100442 A 1994
(2) Suntory Ltd; JP 640901 A 1994

=> s l3 and nutrition

L7 11 L3 AND NUTRITION

=> d hist

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FILE 'MEDLINE, CAPLUS' ENTERED AT 14:49:14 ON 30 NOV 2000
L1 7 S 17010-37-6 OR 34271-54-0 OR 5822-62-8 OR 175696-81-8
L2 291 S THEANINE
L3 292 S L2 OR L1
L4 17 S L3 AND REVIEW
L5 17 DUPLICATE REMOVE L4 (0 DUPLICATES REMOVED)
L6 1 S L3 AND IMBALANCE
L7 11 S L3 AND NUTRITION

=> s l7 not l5 not l6

L8 10 L7 NOT L5 NOT L6

=> d ibib abs 1-10

L8 ANSWER 1 OF 10 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1997:413402 CAPLUS
DOCUMENT NUMBER: 127:94782
TITLE: Suitable level of nitrogen fertilizer for tea (Camellia sinensis L.) plants in relation to growth, photosynthesis, nitrogen uptake, and accumulation of free amino acids
AUTHOR(S): Okano, Kunio; Chutani, Koji; Matsuo, Kiyoshi
CORPORATE SOURCE: Natl. Res. Inst. Veg. Ornamental Plants Tea, Shizuoka, 428, Japan
SOURCE: Nippon Sakumotsu Gakkai Kiji (1997), 66(2), 279-287
CODEN: NISAAJ; ISSN: 0011-1848
PUBLISHER: Nippon Sakumotsu Gakkai
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The physiol. responses of pot-grown tea plants to various levels of nitrogen fertilizer were investigated to det. the suitable level of

nitrogen for tea plants. Defining an arbitrary unit of nitrogen application as 1 N plot (200 mgN pot-1 yr-1, corresponding to 10 kgN 10 are-1 yr-1), exptl. plots from 0 to 27 N were prepd. using ammonium sulfate. The plants exhibited symptoms of nitrogen deficiency below 3 N plots. High photosynthetic activity and favorable growth were obsd. from 6 to 12 N plots. Tip-burn of mature leaves and inhibition of photosynthesis were first detected at the level of 15 N plot. At the level of more than 18 N plots, the falling of mature leaves, depression of root respiration and death of some plants occurred. Based on these results, the crit. level for growth and yield was detd. to be 6 N plot. Nitrogen uptake increased with the increase in the amt. of nitrogen applied, while the capacity of uptake gradually satd. The recovery rate of applied nitrogen declined linearly with the increase in nitrogen dressing. The concn. of free amino acids in the first flush shoots increased in an unlimited manner with the increase in nitrogen dressing. However, the abs. amts. in the new shoots were greatest in 9 to 15 N plots due to the inhibition of new shoot growth in heavily manured plots. Thus, with respect to the accumulation of free amino acids, the crit. level for leaf quality is estd. to be around 12 N plot. The **theanine** content in the first flush shoots increased up to 9 N plot. Thereafter, a high content of arginine was detected, implying disorder in the nitrogen metab. These results demonstrate that the crit. level of nitrogen for leaf quality is very close to the toxic level and is twofold greater than that for growth and yield.

L8 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1996:129915 CAPLUS
DOCUMENT NUMBER: 124:174695
TITLE: Sulfur **nutrition** for tea plant and its effect on tea quality.
AUTHOR(S): Ye, Yong; Wu, Xun; Yao, Guokun
CORPORATE SOURCE: Tea. Res. Inst., Chinese Acad. Agric. Sci., Hangzhou, 310008, Peop. Rep. China
SOURCE: Chaye Kexue (1994), 14(2), 123-8
CODEN: CHKEF4; ISSN: 1000-369X
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB The S content in the organs of tea tissues is: absorbing roots > conducting roots > leaves > semixyloid stems > xyloid stems; and seeds > flowers. The effect of S **nutrition** on the quality components and the related enzyme activities in fresh leaves was analyzed, in pot and field expts. The basic metab. of tea plants was improved, and the photosynthetic rate, chlorophyll content, total N content and total P content were increased, and the uptake of K from the soil was inhibited by supplying S to tea. At certain levels of S, the nitrate reductase activity, the free amino acid content, esp. the **theanine** and aspartic acid content in fresh leaves increased, but the polyphenol oxidase activity and the polyphenol metab. decreased, resulting in the dropping of the polyphenol/amine value, which was good for the quality of green tea.

L8 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1995:267260 CAPLUS
DOCUMENT NUMBER: 122:25877
TITLE: Manufacture of nutrients containing L-**theanine**

for tea leaves and plants
INVENTOR(S): Handa, Kayoko; Yokoyama, Tsunetaka
PATENT ASSIGNEE(S): Yokoyama Tsunetaka, Japan; Handa Kayoko
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06256110	A2	19940913	JP 1992-304328	19921003

AB A mixt. contg. amino acid (e.g., **theanine**) and cytokinin (e.g., kinetin), auxin (e.g. indole acetic acid) and vitamins is sprayed on leaves to improve the taste of tea and nutrient efficacy.

L8 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1994:556550 CAPLUS
DOCUMENT NUMBER: 121:156550
TITLE: Effect of zinc on carbon and nitrogen metabolism in tea plant (Camellia sinensis L.)
AUTHOR(S): Wu, Cai; Fang, Xinghan
CORPORATE SOURCE: Tea Res. Inst., Chin. Acad. Agric. Sci., Hangzhou, 310008, Peop. Rep. China
SOURCE: Zhongguo Nongye Kexue (Beijing) (1994), 27(2), 72-7
CODEN: CKNYAR; ISSN: 0578-1752
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB The levels of nucleic acids, sol. proteins, free amino acids, catechins, chlorophyll, zinc, phosphorus, and photosynthetic efficiency and nitrate reductase activity in tea (Camellia sinensis L.) seedlings, which had been cultured with different concns. of Zn, were detd. Results showed that Zn enhanced photosynthesis, nitrate reductase activity and synthesis of protein and RNA, and increased content of non-ester catechin. Zn concns. from 1.00 to 2.00 ppm were in favor of the synthesis of **theanine**. However, Zn decreased the content of DNA and ester catechin, and P absorption of the seedlings.

L8 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1993:538364 CAPLUS
DOCUMENT NUMBER: 119:138364
TITLE: Influence of different measures on carbon and nitrogen distribution and quality of tea leaves in tea plant
AUTHOR(S): Xie, Xuemin; Yang, Xiangqiang; Shen, Yuwei; Wang, Dongfeng; Li, Longming
CORPORATE SOURCE: Inst. Nucl. Agric. Sci., Zhejiang Agric. Univ., Hangzhou, 310029, Peop. Rep. China
SOURCE: Henong Xuebao (1993), 7(1), 29-36
CODEN: HEXUEE; ISSN: 1000-8551
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB By using an isotopic tracer technique, the effects of different management on carbon and nitrogen distributions in tea plant and tea quality were studied. Late-autumn fertilizing stimulated photosynthate accumulation in the whole bush, esp. in overwintering leaves and roots. The large amt. of

photosynthates in overwintering leaves provided nutrients required for early spring budding. Late-autumn fertilizing also accelerated transport of photosynthates from leaves to roots in winter. More amino acids, esp. **theanine** and phenylalanine, were synthesized from photosynthates and absorbed nitrogen. Potassium stimulated the transport speed and utilization ratio of photosynthates in tea plants. After the first picking of tea, proper pruning of shoots improved the quality of summer tea leaves. Heavy pruning of shoots, if necessary, could be carried out at the period of abundant nutritional matter in tea plant. GA sprayed on tea plants affected growth pos. only at the period when nutritional matter
was abundant in the plants; otherwise it inhibited the growth of tea plants.

L8 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1992:588299 CAPLUS
DOCUMENT NUMBER: 117:188299
TITLE: **Theanine** formation by tea suspension cells
AUTHOR(S): Matsuura, Takanobu; Kakuda, Takami; Kinoshita, Tatsuyuki; Takeuchi, Naokazu; Sasaki, Kyosuke
CORPORATE SOURCE: Cent. Res. Inst., Ito-En, Ltd., Shizuoka, 421-05, Japan
SOURCE: Biosci., Biotechnol., Biochem. (1992), 56(8), 1179-81
CODEN: BBBIEJ
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The threanine (THE, .gamma.-glutamylethylamide) content and the growth rate of cultured cells of tea (Camellia sinensis) were increased greatly to 22.3% (dry wt.) with a medium contg. 60 mM nitrate and 25 mM ethylamine
as nitrogen source. The optimum concns. of nitrate, Mg2+, and K+ for the growth and formation of THE in suspension cells were 40, 3, and 104 mM, resp. The yield of THE accumulated in the cultured cells with the medium modified for THE formation was increased greatly due to a large increase of the growth rate.

L8 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1991:100390 CAPLUS
DOCUMENT NUMBER: 114:100390
TITLE: Effects of late-autumn fertilizer dressing on accumulation of photosynthates in tea (Camellia sinensis) and its contribution to spring tea quality
AUTHOR(S): Shen, Y.; Yang, X.; Xie, X.
CORPORATE SOURCE: Inst. Nucl. Agric. Sci., Zhejiang Agric. Univ., Hangzhou, 310029, Peop. Rep. China
SOURCE: J. Agric. Sci. (1990), 115(2), 233-8
CODEN: JASIAB; ISSN: 0021-8596
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Two-year-old tea bushes were given N-P-K fertilizer on 12 Nov. 1986 and 14CO2 on 22-23 Dec. 1986 and 9-10 Jan. 1987. Late-autumn fertilizer dressing stimulated photosynthate accumulation in the whole bush, esp. in overwintering leaves and roots. Large amts. of photosynthates in overwintering leaves provide the **nutrition** required for early spring budding. Late-autumn dressing also accelerated the transport of photosynthates from leaves to roots in winter, where photosynthates, with absorbed nitrogen, synthesized more amino acids, esp. **theanine** and phenylalanine. The reuse of photosynthates stored in the roots of the
dressed bushes during shoot growth the following spring was also facilitated by late-autumn dressing. The contents of amino acids and

caffeine in the shoots of dressed bushes were much higher than those in the control, whereas the content of polyphenol was lower than in the control. Thus, late-autumn dressing improves the quality of spring green tea.

L8 ANSWER 8 OF 10 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1990:157200 CAPLUS
DOCUMENT NUMBER: 112:157200
TITLE: Soil nutrient condition in tea plantation in relation to tea quality and its adjustment and control
AUTHOR(S): He, Dianyuan; Xu, Guohuan; Fan, Lamei; Liao, Xianling
CORPORATE SOURCE: Changsha Inst. Agric. Modernization, Acad. Sin., Changsha, Peop. Rep. China
SOURCE: Turang Tongbao (1989), 20(6), 245-8
CODEN: TUTOEG; ISSN: 0564-3945
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB Tea plants were cultivated on red soil of medium or low fertility. The amino acid content of tea leaves correlated with total N and available Zn in the soil. Mo fertilizer or Mn fertilizer increased the content of **theanine** in tea leaves. The Al-P fraction in soil was an available source of P for tea plants. B fertilizer increased the wt. of leaf buds. Prodn. of 100 kg tea leaves (dry wt.) required N 96.2, P 28.5, K 41.8, Ca 18.0, Mg 27.8 and Mn 5.80 kg.

L8 ANSWER 9 OF 10 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1986:552124 CAPLUS
DOCUMENT NUMBER: 105:152124
TITLE: Assimilation and translocation of nitrogen by tea plant
AUTHOR(S): Hoshina, Tsuguo; Kosuge, Nobuo
CORPORATE SOURCE: Natl. Res. Inst. Tea, Minist. Agric., For., Fish., Makurazaki, 898, Japan
SOURCE: Chagyo Kenkyu Hokoku (1985), (62), 14-17
CODEN: CHKHB9; ISSN: 0366-6190
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
AB When one-year-old seedlings of tea cultivar Yabukita were water-cultured without nutrient for 3 wk, fine roots contained glutamic acid (I) 401, aspartic acid (II) 255, glutamine (III) 54, asparagine (IV) 49, **theanine** (V) 46, and 4 others 112 nmol/g fresh wt. After addn. of 30 ppm NH3 as (NH4)2SO4, III increased to 22,185 after 48 h, V increased to 395.apprx.511 after 2.apprx.48 h, I and II decreased to 163 and 65 after 2 h and increased to 877 and 356 nmol after 48 h, resp., and IV increased to 109.apprx.119 after 8.apprx.24 h and to 236 nmol/g after 48 h. Arginine [74-79-3] was very low in fine roots. When 2-wk-old seedlings were soaked in 200 ppm 15N at 30.degree. in the dark, III in fine roots increased to 0.83 and 3.86 and V to 0 and 0.04 atom% excess after 0.5 and 2 h resp., and amido-N of III was 25.apprx.32 times as much as amino-N, but amido and amino-N in V were 0.03 and 0.05 atom% excess, resp. When a 4-yr-old tea plant was grown on soil for about 7 mo without fertilizer, xylem sap contained III 258, V 138, I 97, II 46, and 5 other amino acids 81 nmol/mL. When 2 g N as (NH4)2SO4 in 200 mL was applied to the plant, III and V increased to 13,529.apprx.19,509 and to 1244.apprx.4652, but I and II decreased to 13.apprx.27 and 1.apprx.13 nmol/mL after 2.apprx.14 days, resp. Thus, NH3 was primarily assimilated into III by tea root, and then N compds. were translocated into aerial parts in xylem sap.

L8 ANSWER 10 OF 10 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1985:220077 CAPLUS
DOCUMENT NUMBER: 102:220077
TITLE: Nitrogen-15 study on the fate of foliarly applied urea
nitrogen in tea plant (Camellia sinensis L.)
AUTHOR(S): Karasuyama, Mitsuaki; Yoneyama, Tadakatsu; Kobayashi, Hironobu
CORPORATE SOURCE: Kagoshima Tea Exp. Stn., Kawanabe, 897-03, Japan
SOURCE: Soil Sci. Plant Nutr. (Tokyo) (1985), 31(1), 123-31
CODEN: SSPNAW; ISSN: 0038-0768
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The fate of foliarly applied N from urea [57-13-6] in 1-yr-old tea plants was investigated by applying 15N-labeled urea to the shoots 3 times during 5 days. On the day following the final urea application (Day 1), a large part of applied-N was retained in the form of N compds. sol. in 80% EtOH soln. in the leaves, and after 7 days (Day 7) the percentage of applied-N in the insol. fraction increased, suggesting that the applied-N was utilized for protein synthesis. The percentage of applied-N translocated to the roots was very small, only a few percent, of which >70% was found in the insol. fraction. The percentages of N derived from applied urea in N contained in glutamine [56-85-9] and arginine [74-79-3] were high on Day 1 in the leaves, but on Day 7 amts. in glutamine became lower, while those in arginine still remained at high levels. The percentages of applied-N in **theanine** [3081-61-6] were low in all of the tissues (Day 1 and Day 7). The percentages of applied-N in caffeine [58-08-2] in the leaves were much higher than those in **theanine**, and increased from Day 1 to Day 7. Evidently, N derived from foliar application of urea is assimilated into glutamine first, and then transferred to other amino acids, as well as to caffeine and protein. Arginine is synthesized with N derived from urea application only to a small extent, probably due to the fact that **theanine** is synthesized in the roots and little of foliarly applied-N is transported to the roots in summer.

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